

## PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>P17752WO1</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/SE 2003/001114</b>	International filing date (day/month/year) <b>26-06-2003</b>	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC <b>H04J 11/00 // H04J 13/00</b>		
Applicant <b>Telefonaktiebolaget LM Ericsson(publ) et al</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand <b>04-01-2005</b>	Date of completion of this report <b>19-09-2005</b>
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer <b>Peder Gjervaldsaeter/MN</b> Telephone No. +46 8 782 25 00

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001114

## Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☐ the international application in the language in which it was filed
- ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	<u>2-10, 12-20</u>	YES
	Claims	<u>1, 11, 21, 22</u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1-22</u>	NO
Industrial applicability (IA)	Claims	<u>1-22</u>	YES
	Claims	<u></u>	NO

**2. Citations and explanations (Rule 70.7)****The claimed invention**

The claimed invention relates to the problem concerning providing an alternative way of allocating channel resources in a radio communication system using orthogonal variable spreading factors.

The problem is solved by considering an estimate of when a specific channel resource and other previously allocated channel resources will be released when allocating the specific channel resource.

**Prior art**

In the International Search Report the following documents were cited:

D1: WO03047129

D2: DE19835643

D3: IEEE, 2002, Tseng et al.: "Code placement and replacement strategies for wideband CDMA OSVF code tree management"

D1 describes code allocation in a radio communication system using orthogonal variable spreading factors (OVSF). According to D1, the OVSF codes are defined by a binary code tree structure having a root and plural code levels. Each node of the tree corresponds to one code and has a spreading factor defined by its level in the tree structure. When a code of a certain level is requested for a connection, the code allocation unit selects a free code of that level whose subtree structure from the root of the code tree has the largest combined weight. The combined weight is a sum of

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## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V

weights for all codes being allocated in the subtree. The weights can be statistically derived values related to durations of allocations. It is also stated in D1 (see paragraphs 0041-0042) that the weight can be related to how long a code will be allocated, based on statistics for different types of services or individual user behavior. (See especially paragraphs 00041-00042 and 00084.)

Documents D2-D3 represent the prior art. The claimed invention is not considered to be anticipated by these documents.

**Statement of reason**Claims 1, 11, 21 and 22

The code allocation method known from D1 is considered to represent the closest prior art.

The invention claimed in claims 1, 11, 21 and 22 differs from what is known from D1 only in that the method is slightly differently described in D1 than it is described in these claims. In D1 weight values are calculated and summed for all allocated codes in the subtree. This corresponds to the considering of the occupied channel resources in the claims. The values of the weights in D1 are related to how long a code will be allocated. This corresponds to estimating when resources will be released as is done in the claims. What is claimed in claims 1, 11, 21 and 22 is thus not novel.

Claims 2-10 and 12-20

In claims 2-10 and 12-20 constructional details and characteristics of the method and apparatus are defined, which are either known from D1 or come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject matter of claims 2-10 and 12-20 is not considered to involve an inventive step.

To sum up:

What is claimed in claims 1, 11, 21 and 22 is not novel. What is claimed in claims 2-10 and 12-20 is novel but fails to involve an inventive step. What is claimed in claims 1-22 comprises industrial applicability.